

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) An exercise machine, comprising:
 - a main frame;
 - a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line, the user support frame comprising one moving part of the machine which moves between a start position and an end position during an exercise movement;
 - the user support frame having at least a primary support and a secondary support for supporting spaced positions on a user's body throughout an exercise movement, the secondary support being fixed at a predetermined angular orientation relative to the primary support, the primary support supporting the majority of a user's weight in the start position of the support frame, and the ~~primary and secondary supports~~ support remaining in the same predetermined angular orientation relative to one another and traveling together the primary support throughout an exercise movement, whereby the primary and secondary supports travel together at the predetermined angular orientation relative to one another throughout the exercise movement;
 - a user engagement device movably mounted on one of the frames for engagement by the user in performing exercises, the user engagement device comprising a second moving part of the machine;
 - a connecting link linking movement of the user engagement device to movement of the user support frame, the connecting link comprising a third moving part of the machine; and
 - a load for resisting movement of at least one of the moving parts of the machine;
- ~~whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame between a start position and an end position~~, the user support pivot axis being positioned such that portions of the combined weight of the user and user support frame are distributed on each side of the gravitational center line of the user support pivot axis in both the start

and end position and only a portion of the combined weight passes through the gravitational center line during the exercise movement.

2. (ORIGINAL) The machine as claimed in claim 1, wherein the primary support comprises a seat pad.
3. (ORIGINAL) The machine as claimed in claim 2, wherein the secondary support comprises a back pad.
4. (WITHDRAWN) The machine as claimed in claim 2, wherein the secondary support comprises a chest pad.
5. (WITHDRAWN) The machine as claimed in claim 2, wherein the secondary support comprises thigh hold down pads.
6. (WITHDRAWN) The machine as claimed in claim 1, wherein the primary support comprises a back pad.
7. (WITHDRAWN) The machine as claimed in claim 6, wherein the secondary support comprises a head rest pad and shoulder rest pads.
8. (ORIGINAL) The machine as claimed in claim 1, including an additional user support for supporting a different part of the user's body from the primary support and secondary support.
9. (ORIGINAL) The machine as claimed in claim 8, wherein the additional user support is mounted on the user support frame.
10. (WITHDRAWN) The machine as claimed in claim 8, wherein the additional user support is mounted on the main frame.

11. (ORIGINAL) The machine as claimed in claim 8, wherein the additional user support comprises a foot support for the user's feet.
12. (WITHDRAWN) The machine as claimed in claim 8, wherein the additional user support is fixed in position relative to the first two supports throughout an exercise movement.
13. (WITHDRAWN) The machine as claimed in claim 8, wherein the additional user support comprises hand grips.
14. (PREVIOUSLY PRESENTED) The machine as claimed in claim 1, wherein the user support frame defines an initial position for the user's body when supported on the frame in the start position of the exercise, and a finish position for the user's body in the end position of the exercise, the gravitational center line extending through a central portion of the user's body in at least one of said initial and finish positions.
15. (PREVIOUSLY PRESENTED) The machine as claimed in claim 14, wherein the gravitational center line of the user support pivot axis extends through the user's hips in at least one of said user positions.
16. (WITHDRAWN) The machine as claimed in claim 14, wherein the gravitational center line of the user support pivot axis extends through the user's legs in at least one of said user positions.
17. (WITHDRAWN) The machine as claimed in claim 1, wherein the main frame has a floor-engaging portion and the user support frame is pivotally mounted on the floor-engaging portion for rotation about the user support pivot axis.
18. (CURRENTLY AMENDED) An exercise machine, comprising:
a main frame;

a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line, the user support frame comprising one moving part of the machine;

the user support frame having at least a primary support and a secondary support for supporting spaced positions on a user's body throughout an exercise movement, the primary support supporting the majority of a user's weight in a start position of the support frame, the user support frame having a base member and an upright extending generally upwardly at an angle less than 180 degrees to the base member and which is fixed and not movable relative to the base member, the primary user support comprising a pad mounted on the base member;

a user engagement device movably mounted on one of the frames for engagement by the user in performing exercises, the user engagement device comprising a second moving part of the machine;

a connecting link linking movement of the user engagement device to movement of the user support frame, the connecting link comprising a third moving part of the machine; and

a load for resisting movement of at least one of the moving parts of the machine[[:]]

~~whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame between a start position and an end position.~~

19. (CURRENTLY AMENDED, WITHDRAWN) The machine as claimed in claim 18, further comprising a user support pivot mount, the user support pivot mount comprising a four bar linkage between the user support frame and the main frame, the four bar linkage defining a theoretical pivot axis of the user support frame pivotal movement, the theoretical pivot axis comprising ~~the~~ a user support pivot axis.

20. (CURRENTLY AMENDED, WITHDRAWN) The machine as claimed in claim 18, wherein the user support frame pivotal movement is about a user support pivot axis [[:]] located directly beneath the primary user support.

21. (PREVIOUSLY PRESENTED) The machine as claimed in claim 18, wherein the user support pivot axis is located approximately at a junction between the base member and upright of the user support frame.
22. (ORIGINAL) The machine as claimed in claim 1, wherein the user engagement device is movably mounted on the main frame.
23. (WITHDRAWN) The machine as claimed in claim 1, wherein the user engagement device is movably mounted on the user support frame.
24. (ORIGINAL) The machine as claimed in claim 1, wherein the user engagement device comprises at least one rigid exercise arm.
25. (WITHDRAWN) The machine as claimed in claim 1, wherein the user engagement device comprises at least one flexible member.
26. (ORIGINAL) The machine as claimed in claim 1, wherein the connecting link is a rigid link.
27. (ORIGINAL) The machine as claimed in claim 26, wherein the connecting link has a first end pivoted to said user engagement device and a second end pivoted to said user support frame.
28. (WITHDRAWN) The machine as claimed in claim 1, wherein the connecting link is a flexible member.
29. (WITHDRAWN) The machine as claimed in claim 1, wherein said connecting link is adjustable in length.
30. (WITHDRAWN) The machine as claimed in claim 1, including a slide member slidably mounted on said user support frame, the connecting link having a first end pivoted to said slide member.

31. (WITHDRAWN) The machine as claimed in claim 1, wherein the connecting link has a first end pivoted to said user engagement device and a second end pivoted to said main frame, the user support frame being pivotally connected to said user engagement device, whereby movement of said user engagement device is linked to movement of the user support frame.
32. (WITHDRAWN) The machine as claimed in claim 1, wherein the connecting link comprises a first gear toothed cam mounted on said user engagement device and a second gear toothed cam mounted on said user support frame and meshing with said first gear toothed cam.
33. (WITHDRAWN) The machine as claimed in claim 1, wherein the connecting link comprises a cable and pulley assembly extending between said user engagement device and said user support frame.
34. (WITHDRAWN) The machine as claimed in claim 1, wherein the connecting link comprises a moving wedge member slidably engaged with said main frame and user support frame, and said user engagement device is mounted on said moving wedge member.
35. (ORIGINAL) The machine as claimed in claim 1, wherein the user engagement device is adjustable.
36. (CANCELED)
37. (CURRENTLY AMENDED) An exercise machine, comprising:
a main frame having a floor-engaging portion;
a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis at a location spaced above the floor-engaging portion, the support frame being designed for supporting the body of a user in a predetermined exercise position, the pivot axis defining a vertical, gravitational center line of the pivotal movement, the user support frame comprising one moving part of the machine;

the user support frame having at least a primary user support and a secondary user support for supporting different parts of a user's body during an exercise, the secondary user support being at a predetermined angular orientation of less than 180 degrees to the primary user support, the primary and secondary user support together supporting the majority of the user's body weight during the exercise and traveling together ~~such that~~ with the secondary user support fixed at the ~~remains at the same predetermined~~ angular orientation relative to the primary user support throughout the exercise movement;

an exercise arm movably mounted on one of the frames for engagement by the user in performing exercises, the exercise arm having at least one user engaging portion, and comprising a second moving part of the machine;

a connecting link linking movement of the exercise arm to movement of the primary and secondary user support, the connecting link comprising a third moving part of the machine; and

a load for resisting movement of at least one of the moving parts of the machine, whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame and user between a start position and an end position;

the user support pivot axis being located under at least a substantial portion of the user's body when supported on the frame during at least part of an exercise movement.

38. (PREVIOUSLY PRESENTED) The machine as claimed in claim 37, including an additional user support mounted on the user support frame and moving with the user support frame.

39. (ORIGINAL) The machine as claimed in claim 37, wherein the additional user support comprises at least one foot support plate.

40. (PREVIOUSLY PRESENTED) The machine as claimed in claim 37, wherein the gravitational center line passes through a central portion of the user's body in at least one of the start and end positions.

41. (PREVIOUSLY PRESENTED) The machine as claimed in claim 40, wherein the gravitational center line passes through the user's hips in at least one of the start and end positions.
42. (WITHDRAWN) The machine as claimed in claim 40, wherein the gravitational center line passes through the user's legs in at least one of the start and end positions.
43. (WITHDRAWN) The machine as claimed in claim 37, wherein the connecting link is a rigid member.
44. (WITHDRAWN) The machine as claimed in claim 37, wherein the connecting link is a flexible member.
45. (WITHDRAWN) The machine as claimed in claim 37, wherein the connecting link is adjustable in length.
46. (WITHDRAWN) The machine as claimed in claim 37, wherein the exercise arm comprises at least one rigid member.
47. (WITHDRAWN) The machine as claimed in claim 46, wherein the exercise arm comprises a pair of articulating arm members mounted on opposite sides of the user support frame.
48. (WITHDRAWN) The machine as claimed in claim 37, wherein the exercise arm comprises at least one flexible member.
- 49 (CANCELED)
50. (CURRENTLY AMENDED) An exercise machine, comprising:
a main frame having a floor-engaging portion;
a user support frame pivotally mounted on the main frame for rotation about a user support pivot axis at a location spaced above the floor-engaging portion, the support frame being designed

for supporting the body of a user in a predetermined exercise position, the pivot axis defining a vertical, gravitational center line of the pivotal movement, the user support frame comprising one moving part of the machine;

the user support frame having at least a primary user support and a secondary user support for supporting different parts of a user's body during an exercise, the secondary support being fixed at a predetermined angular orientation relative to the primary support, the primary support supporting the majority of a user's weight in the start position of the support frame, and the secondary support remaining in the same predetermined angular orientation relative to the primary support throughout an exercise movement, whereby the primary and secondary supports travel together at the predetermined angular orientation relative to one another throughout the exercise movement;

an exercise arm movable relative to at least one of the frames and movably mounted on said at least one of the frames for engagement by the user in performing exercises, the exercise arm having at least one user engaging portion, and comprising a second moving part of the machine;

a connecting link linking movement of the exercise arm to movement of the entire user support frame, the connecting link comprising a third moving part of the machine;

a load for resisting movement of at least one of the moving parts of the machine, whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame and user between a start position and an end position; and

the user support pivot axis being positioned such that portions of the combined weight of the user and user support frame are distributed on each side of the gravitational center line of the user support pivot axis in both the start and end position and a portion of the combined weight passes through the gravitational center line during the exercise movement.

51. (PREVIOUSLY PRESENTED) An exercise machine, comprising:

a main frame;

a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line, the user support frame comprising one moving part of the machine;

the user support frame having at least a primary support and a secondary support for supporting spaced positions on a user's body throughout an exercise movement, the primary support comprising a seat pad and the secondary support comprises a leg support which travels in the same direction as the primary support throughout an exercise movement;

a user engagement device movably mounted on one of the frames for engagement by the user in performing exercises, the user engagement device comprising a second moving part of the machine;

a connecting link linking movement of the user engagement device to movement of the user support frame, the connecting link comprising a third moving part of the machine; and a load for resisting movement of at least one of the moving parts of the machine; whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame between a start position and an end position, the user support pivot axis being positioned such that portions of the combined weight of the user and user support frame are distributed on each side of the gravitational center line of the user support pivot axis in both the start and end position and only a portion of the combined weight passes through the gravitational center line during the exercise movement.

52. (PREVIOUSLY PRESENTED) The machine as claimed in claim 51, wherein the secondary support is a foot rest.

53. (CANCELED)

54. (WITHDRAWN) The machine as claimed in claim 14, wherein the gravitational center line of the user support pivot axis extends through the user's thighs in at least one of said user positions.

55. (PREVIOUSLY PRESENTED) The machine as claimed in claim 1, wherein the user support pivot axis is located directly behind the primary user support.

56. (PREVIOUSLY PRESENTED) The machine as claimed in claim 18, wherein the user support pivot axis is located on the upright of the user support frame.

57. (CANCELED)

58. (CANCELED)

59. (PREVIOUSLY PRESENTED) The machine as claimed in claim 50, wherein the secondary user support comprises a leg support.

60. (CURRENTLY AMENDED) The machine as claimed in claim 1 ~~claim 36~~, wherein said ~~at least one user engaging portion~~ user engagement device comprises two user engaging portions which engage the user's hands or the user's feet, whereby movement of the user support frame is selectively controlled by actuation of one or both user engaging portions.

61. (NEW) An exercise machine, comprising:

a main frame;

a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line and a horizontal line extending through the user support pivot axis transverse to the vertical, gravitational center line, the user support frame comprising one moving part of the machine which moves between a start position and an end position during an exercise movement;

the user support frame having at least a primary support and a secondary support for supporting spaced positions on a user's body throughout an exercise movement, the secondary support being fixed at a predetermined angular orientation relative to the primary support, the primary support supporting the majority of a user's weight in the start position of the support frame, and the secondary support remaining in the same predetermined angular orientation relative to the primary support throughout an exercise movement, whereby the primary and secondary supports travel together at the predetermined angular orientation relative to one another throughout the exercise movement;

a user engagement device movably mounted on one of the frames for engagement by the user in performing exercises, the user engagement device comprising a second moving part of the machine;

a connecting link linking movement of the user engagement device to movement of the user support frame, the connecting link comprising a third moving part of the machine; and

a load for resisting movement of at least one of the moving parts of the machine,

whereby the horizontal line is located below the entire user engaging part of the primary user support in at least one of the start and end positions of the exercise movement.

62. (NEW) The exercise machine of claim 61, wherein the primary support includes a seat pad.

63. (NEW) An exercise machine, comprising:

a main frame;

a user support frame;

a pivot assembly which pivotally mounts the user support frame relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line of the pivotal movement;

the user support frame comprising one moving part of the machine and having at least a primary user support and a secondary user support for supporting spaced positions on a user's body throughout an exercise movement, the secondary support being fixed at a predetermined angular orientation relative to the primary support, the primary support supporting the majority of a user's weight in the start position of the support frame, and the secondary support remaining in the same predetermined angular orientation relative to the primary support throughout an exercise movement, whereby the primary and secondary supports travel together at the predetermined angular orientation relative to one another throughout the exercise movement;

a user engagement device movably mounted on one of the frames for engagement by a user in performing exercises, the user engagement device comprising a second moving part of the machine;

the pivot assembly being located beneath the user's hips through at least part of an exercise movement;

a connecting link movably engaged with at least two of the main frame, user support frame and user engagement device for linking movement of the user engagement device to movement of the user support frame, whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame, the connecting link comprising a third moving part of the machine; and

a load for resisting movement of at least one of the moving parts of the machine.

64. (NEW) The exercise machine of claim 63, wherein the pivot assembly includes a pivot mount connected to the user support frame.

65. (NEW, WITHDRAWN) The exercise machine of claim 63, wherein the pivot assembly includes a four bar linkage system connected to the user support frame which defines the user support pivot axis.

66. (NEW, WITHDRAWN) The exercise machine of claim 65, wherein the four bar linkage system comprises a base strut of the user support frame, a pivot mount on the main frame, and a first and a second lever arm forming a pivoting connection between the base strut and the pivot mount.

67. (NEW) An exercise machine, comprising:

a main frame having a floor-engaging portion ;

a user support frame pivotally mounted relative to the main frame for rotation about a user support pivot axis, the user support pivot axis defining a vertical, gravitational center line of the pivotal movement and a horizontal plane extending through the user support pivot axis in a direction transverse to the vertical gravitational center line, the user support frame comprising one moving part of the machine;

the user support frame having at least a primary user support and a secondary user support for supporting different parts of a user's body during an exercise, the primary user support comprising a seat pad and the secondary user support comprising a leg support which travels in the same direction as the seat pad throughout the exercise movement;

a user engagement device movably mounted on one of the frames for engagement by the user in performing exercises, the user engagement device comprising a second moving part of the machine;

a connecting link linking movement of the user engagement device to movement of the primary and secondary user support, the connecting link comprising a third moving part of the machine; and

a load for resisting movement of at least one of the moving parts of the machine, whereby movement of the user engagement device in an exercise movement simultaneously moves the user support frame and user between a start position and an end position, and the horizontal plane extending through the user support pivot axis is located below the user's hips in at least one of the start and end positions.

68. (NEW) The machine of claim 67, wherein the user support frame includes an additional user support which supports a different part of the user's body from the primary and secondary user supports.